DOCUMENT RESUME

ED 298 614 EA 020 268

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TITLE Drug Testing in the Schools. Implications for Policy.
PUB DATE Nov 87
NOTE 17p.
PUB TYPE Viewpoints (120) -- Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Alcohol Education; *Drug Abuse; *Drug Education; Elementary Secondary Education; Physical Examinations; Public Schools; *School Policy; *Screening Tests; *Substance Abuse
IDENTIFIERS *Drug Use Testing

ABSTRACT

Drug testing of district employees and students is examined from several perspectives: implications for school policy, legality, administration and protocol, and test reliability and accuracy. Substance abuse has become a major concern for educators, parents, and citizens as illegal drugs are more readily available. It is also pointed out that the most commonly abused substance is alcohol. Two approaches to curb this trend are common: drug education and drug testing. Drug testing or screening is gaining public awareness and support. As administrators and school boards begin to consider this an option, thoughtful discussions that protect student and employee rights must become part of the policy. Litigation will be the likely outcome if this is not done. Also, it is imperative that policy makers be knowledgeable about the technical aspects of drug testing. This includes procedures, confirmation methods, and expenses. The alternative is to offer appropriate educational programs that are better able to accomplish the goal. (LMS)

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# Drug Testing in the Schools: Implications for Policy

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November 1987

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Substance abuse and its consequences are considered in many communities to be the number one problem facing educators today (Gallup, 1986). While alcohol and teen drinking have been, and continue to be, the real number one drug problem, public attention has shifted to popular illicit drugs such as marijuana, stimulants, and cocaine, especially in the form of "crack." The continuing increase in the usage of these drugs is reported by the National Institute of Drug Abuse (NIDA). According to NIDA data, marijuana and stimulants remain the most popular illicit drugs, followed by cocaine (Wright, 1985). NIDA data from 1975 to 1985 show slightly fewer students using marijuana, but a steady rise in the use of cocaine (Viadero, 1986).

Public concern about substance abuse, fueled by political and media attention to the problem, is causing school administrators to consider various approaches beyond traditional drug education. Among the approaches endorsed by many public officials is drug testing--of both district employees and students. For the purpose of this paper, drug testing consists of the analysis of a urine specimen to determine if certain drugs have been used. This article will examine drug testing from several perspectives: implications for policy, legality, administration and protocol, and test reliability and accuracy.

The implications for school policy are central to any discussion of drug testing, be it for students or employees. The reason for this resides at the core of the function of school policy. Policy is a

"general and goal-oriented statement of intent to act, or behave, in a particular manner when confronted with a given situation..." Policy exists to insure fairness and consistency in dealing with situations. From policy flows rules and regulations (Knezevich, 1984, p. 278).

It is the position of the authors that no procedures, methods, or rules regarding drug testing should be considered in the absence of clear district policy. Furthermore, it is believed that the absence of clear and deliberate policy in this area will only lead to unfair and inconsistent administration, misuse, and of course, litigation. Regrettably, there are at present attempts to move toward drug testing programs in the schools without the direction of district policy.

Before policy can be considered, it is essential that both the administration and board be aware of the myriad of sensitive, ethical, legal and constitutional issues, formal testing procedures and protocols, financial questions, and the nature of the test themselves, all of which should shape policy decisions.

## Legal Considerations

Before addressing the technical aspects of drug testing, let us consider a few of the legal questions. It is extremely important that school officials not fall into the trap of assuming that public pressure to deal with drug problems is legal justification for any action they choose to take. Administrators who fail to take notice of the rights of students and employees do so at their own peril. They may pay for their mistakes in very heavy currency, both monetary and in terms of loss of public trust.

Analysis of legal principles which shape drug testing policy begins with the U. S. Constitution. The Fourth Amendment guarantees a

citizen's right to freedom from unreasonable searches and seizures. This guarantee, like most of those provided in the Bill of Rights, was originally a reaction against colonial abuses such as the general warrant which allowed officials to randomly search one's property or dwelling. Rights of citizens were bolstered by the post-Civil War adoption of the Fourteenth Amendment which provides for due process and equal protection of laws.

In order to insure Fourth and Fourteenth Amendment rights, which are held to be the "golden thread" of the concept that persons are innocent until proven guilty, the courts eventually adopted the exclusionary rule. Simply stated, the exclusionary rule holds that evidence that is the direct or indirect product of an illegal or improper search is inadmissible in court. The exclusionary rule protects people, but not necessarily certain areas such as school lockers.

What does this mean to the school administrator? For instance, "Is the checking of pockets a 'search'?" In New Jersey v. TLO (469 US 325), it was held that a principal checking a student's personal possessions (e.g., a purse) constituted a search, and this search must be based on reasonable suspicion.

Do Fourth and Fourteenth Amendment safeguards apply to students? Yes. The U. S. Supreme Court held that both the Constitution and the Bill of Rights apply to students (In Re Gault, 387 US 1). Although many officers of the court as well as school officials seem to have not read Gault, it is very risky to ignore this case. For example, in Picka v. Wielgos (410 F. Supp. 1214) an expensive settlement of damages, attorney's fees, and court costs resulted when school

officials, after being contacted by the police, searched a student for drugs, and found none. The courts held that school officials were acting as agents of the law enforcement agency and were therefore responsible for serving a search warrant based on reasonable suspicion.

The rules governing searches by school administrators are less clear if the police are not involved. It has often been held that the search of pockets and wallets is acceptable, and that if drugs are found they may be admitted into evidence (Bobby B. v. People, 218 Cal Rptr. 253, and State of Washington V. McKinnon, 55, P 2d, 781). In these cases, it was held that a school administrator who was possible for enforcing rules ( a role which differs from a teacher who is primarily responsible for teaching) could execute a search based on reasonable suspicion. Reasonable suspicion requires a much less rigorous basis of facts than probable cause. Thus, drugs found in a search based on an official's seeing a student hide a suspicious package (resembling a "nickel bag") led to a search of the student. The illicit drugs found in this search were admitted into evidence (People v. Stewart 313 NY 54).

Administrators should be warned that reasonable suspicion must meet the test of "reasonableness" as applied by noneducator officers of the court. For example, searches of lockers were upheld in People v. Overton (229 NE 2d 596), but bringing in dogs to sniff for drugs in various areas, on students and also on teachers was disallowed as a random and degrading search (Horton v. Goose Creek, 690F. 2d 470). It follows that neither random searches nor random drug tests meet the test of reasonable suspicion and are therefore unacceptable.

Since school administrators are likely to be involved in decisions regarding school employees and drugs, great care must be taken to protect employee's rights. In Jones v. McKenzie (628 F Supp 1500) it was held that a urine test constituted a search and thus persons were entitled to Fourth and Fourteenth Amendment safeguards, and also that the EMIT test (see next section) alone was not sufficient to establish the presence of drugs. The courts held that public employees with property rights to a job were entitled to full procedural due process prior to dismissal. Given the fact that Jones had both positive and negative drug test results, and that she was denied a hearing prior to dismissal, the courts held that her rights had been violated. It is important to add here that possession, sale, and/or distribution of controlled substances is illegal, but there is no law forbidding the use of these substances. The only currently allowed Supreme Court exception to the rule of reasonable suspicion and/or probably cause concerns testing of U. S. Customs agents as a condition of employment.

Based on this brief review, we see that drug testing may indeed pose a formidable array of legal problems and questions, all of which must be carefully considered before policy is adopted. But what of the technical issues? That area is the concern of the next section.

## Reliability and Accuracy of Drug Tests

Urine drug screens, if done correctly, are quite reliable and accurate. However, there are considerations which, if not taken into account, can make the results of such tests either meaningless or erroneous. The following discussion pertains to these problematic areas common to all testing procedures.

The major concern of drug screens is that they are traceable to the individual being tested and that their results are reproducible. Relating a sample to the individual is done by creating what is known as a chain of custody for each sample by following a detailed procedure. This standard procedure starts with the creation of the sample and ends with the report of analytical results. It is inclusive of all personnel and activities related to the handling of the sample. In order to be certain that the sample both belongs to the individual being tested and has not been diluted or otherwise tampered, the sample should be collected under the direct supervision of a responsible person. This person should also be responsible for identifying and sealing the container in such manner that no confusion or cross-contamination of samples is possible. If this step is not strictly adhered to, then all test samples become questionable and the results have little meaning.

Proper preparation of samples involves obtaining the sample, packaging the sample, including the division of the sample in two portions if the analytical procedure so requires, proper sealing and labeling of each sample, and any initial analytical procedures required by the analysis.

This last step is done by the testing agency. It is extremely important for the requesting agency to confirm that the testing laboratory has quality controls which eliminate the possibilities of cross-contamination, mislabeling of samples, use of bad reagents or poorly maintained instruments, and the use of improper testing procedures.

If the above requirements have been met, then the next hurdle in obtaining a meaningful result is the analysis. Two important concepts which need to be considered are precision and accuracy. Precision refers to the reliability of the test; if similar results can be obtained with different portions of sample, then the test method is considered to be precise. The closer the results, the higher the precision.

Accuracy is a measure of how closely the test results mirror reality. Accuracy can also be defined as of how well the sample is described with respect to what is actually in that sample. The occurrence of cross-contamination or sample mix-up will destroy the accuracy of a test. Confirmation of the screening test is strongly recommended.

Cross-testing, the running of more than one analytical procedure, is the method that is used to confirm a test result. Some laboratories use a second sample of the same specimen and run the same test. This is the weakest confirmation test, especially if the same equipment is used, as some cross-contamination may not be detected, such as the use of a contaminated pipette or syringe. Cross-reactivity, the ability of two different compounds to give rise to reactions with the same reagents, will also not be detected by this means.

In those analytical procedures in which a different test method is used to confirm results of the drug screen, there is need to consider the differences in sensitivity of the respective test methods. Table 1 lists the sensitivities of commonly used drug tests. In those instances in which the screening process is more sensitive than the confirmatory test, a negative result should be reported. A false

positive result may be due to cross-contamination or cross-reactivity. False negative results can be due to the masking of a reaction by a competing reaction and sensitivity limitations. Poor techniques or instrumental problems can produce false positive or false negatives. A false positive test indicates the presence of something not really there, while a false negative test indicates the absence of what is actually present. All drug screenings should be confirmed and any non-confirmed test result ought to be called a negative. Usually, a sample giving a negative drug screen is not subjected to further testing. Therefore, false negatives will not be detected.

The analytical procedures used in drug screens range from the inexpensive, throw-away kit to complex, automated systems. The most expensive and complex technique, gas chromatography-mass spectroscopy (GCMS), is the method of choice for confirmation. It requires a highly-trained individual to properly use and interpret the findings, which are considered specific means of identification. Unlike other test methods, GCMS identifies the compounds present. The problem of sensitivity limits arises with GCMS, in that some of the other screening tests will give a positive result with several different drug metabolites (those compounds arising from the body's breaking down of the ingested drug), each of which is below the limit of detection, but when added together become detectable. GCMS, which measures each metabolite separately, may be unable to detect any metabolite.

A large number of chromatographic tests are available for drug screening. Chromatographic tests are relatively inexpensive and easy to interpret. Like GCMS, individual components are separated and measured. Unlike GCMS, the chromatographic tests are not specific,

which means the identity of what is measured is not certain. In some instances, chromatographic tests are used as a confirmation test due to their high sensitivity.

The most common screening tests now in use are the enzymatic tests. RIA, radioimmunoassay, is the most expensive enzyme test marketed. It uses radioactively-tagged reagents and as such requires special waste and handling procedures. It also requires a separation step to remove the unreacted reagent which is then measured. The lower the amount of unreacted reagent, the higher the concentration of drug or metabolite.

EMIT, Enzyme Multiplied Immunoassay Technique, is a simpler technique which requires no separation step. The enzymes bound to the drug or metabolite are measured. The higher the concentration of bound reagent, the higher the concentration of drug or metabolite. Both RIA and EMIT reagents are purchased in kits which simplify usage to the point where technicians are capable of running the tests. In either case, the tests should be confirmed by other methods due to the possibility of cross-reactivity. These tests are extremely sensitive (see Table 1) but not specific for drugs.

A confirmed positive test is only <u>indicative</u> of the possible use of controlled substances. Many over-the-counter preparations contain compounds which will give rise to false positives. Some imported poppy seeds which have not been adequately washed may contain morphine and, if ingested on a roll or in pastry, will result in a positive opiate test (Syva Company, 1986). The passive ingestion of marijuana smoke has been shown to occur under certain circumstances in a small number of subjects (Morland, et al., 1985). Non-controlled prescription

medications may cross-react to give false positives. Confirmatory tests will correct some of these false positives but not those due to the legal ingestion of medication or passive ingestion.

An additional area of concern when a positive test is obtained is how long after ingestion will an illicit drug or its metabolite be detected. This is related to both the toxicology of the drug and the sensitivity of the testing procedures. The less sensitive the test, the shorter the duration for detection. This is one reason why some results will not be confirmed. The drug is present but in too low a concentration for the confirmatory test to detect. Table 2 lists the retention time of the various drug groups in the body. These are approximate times. The health of the individual, the metabolic rates of the individual, the frequency of use of the drug, and several other factors will vary these numbers. A strong positive result will not necessarily mean chronic or recent use depending upon the drug's retention time in the body. Likewise, a weak result may mean a large consumption of drug, but the use occurred near the limit of retention time. A weak result could also occur if the urine sample is obtained late in the day, as the first and second voidings have the higher concentrations of a drug or its metabolites.

## Summary

Without question, substance abuse by students and school employees has become the issue of the times, and for good reason. The sudden popularity, availability, and affordability of crack cocaine on the streets and in the schools frightens, or should frighten, every educator, parent, and citizen. The possibility of almost instance addiction to cocaine in this form presents a horror not associated with

most previously popular illicit drugs. Reactions to the problem have been swift, but not necessarily promising. Two widespread approaches or recommendations put forth thus far are: (a) detection (notably drug testing), and (b) drug education. The latter, drug education, has, historically, been very ineffective. Scare tactics and misinformation, no matter how well intentioned, will likely be counterproductive. Our experiences in the late 1960s in drug education should serve as a constant reminder of how not to format drug education programs. Conceivably, drug education can be effective for some students and citizens if properly designed.

Drug usage, as detected through drug testing or screening systems, is gaining public awareness and support as a result of political rhetoric and media exposure. Before school administrators and board members succumb to public pressures and initiate such programs, they are advised to carefully consider policy to guide subsequent actions and procedures. As policy is considered, it is essential that certain rights of citizens, including those of students and school employees, be observed. Failure to do so will likely result in litigation. And it must be remembered--possession or distribution of a controlled substance is illegal, whereas ingestion of the substance, as revealed by screening, is not. What will be the next step after detection?

It is also critical that policy makers be knowledgeable about the technical aspects of drug testing including observance of chain of custody protocols, reliability, sensitivity, and accuracy of various testing procedures, confirmation methods, and duration after ingestion of detectable levels of a drug. Of course, the economics of a drug testing program must also be weighed in comparison to other uses of the

monies necessary to fund a testing system. Initial and confirmatory screens can cost as much as $100 or more per specimen for lab work alone. Expenses related to the chain of custody protocols will add to the total cost.

The intent of this paper is to inform, not to present a position, however tempting it may be. Therefore, we will simply state in conclusion that drug testing programs may be initiated if properly conceived. Screening may also produce desirable results in terms of decreased drug usage by students or employees. The testing will be expensive, and will likely result in litigation. Such litigation will cost the district large sums of money in legal fees and, possibly, settlements as well as invite increasingly restrictive court interpretations to further limit the discretionary powers of school administrators. And the major drug problem, alcohol abuse, is not addressed by the urine screening program.

The alternative is to direct monies toward educational initiatives carefully designed to present the pitfalls of drug usage and involvement, and the benefits of a drug-free life.

TABLE 1

SENSITIVITY OF TESTS FOR DIFFERENT DRUG GROUPS (ng/ml)[1]

| DRUG | RIA | EMIT | GC | GCMS | TLC |
|---|---|---|---|---|---|
| Opiates | 25 | 500 | 500 | 0.5 | 500 |
| Barbiturates | 100 | 500 | 500 | 500 | 500 |
| Amphetamines | 1000 | 700 | 700 | 5-10 | 1000 |
| Methadone | 100 | 500 | 500 | 5-10 | 1000 |
| Benzodiazepines | --- | 500 | --- | 500 | 1000 |
| Cocaine | 5 | 750 | 750 | 5-10 | 2-5 |
| PCP | 2 | 150 | 150 | 5-10 | 500-1000 |
| Ethanol | --- | 0.05% | 0.05% | --- | --- |
| Cannabinoids | 3 | 200 | POOR | 5 | --- |
| Methaqualone | 100 | 750 | 750 | 750 | 1-2 |

GC: Gas Chromatography TLC: Thin Layer Chromatography

---Not Used or Not Available

TABLE 2

RETENTION TIMES OF DRUG GROUPS IN THE HUMAN[2]

| DRUG | Approximate Retention Time |
|---|---|
| Amphetamines | 48 hours |
| Barbiturates | |
| Short Acting | 24 Hours |
| Long Acting | 2-3 Weeks |
| Benzodiazepines | |
| Therapeutic Dose | 3 Days |
| Extended Dosage | 4-6 Weeks |
| Cocaine Metabolites | 2-4 Days |
| Ethanol | 2-14 Hours |
| Opiates | 2 Days |
| PCP | 8 Days |
| Propoxyphene | 6-48 Hours |
| Cannabinoids | |
| Moderate (4 times/week) | 5 Days |
| Heavy (Daily) | 10 Days |
| Chronic | 20 Days |

## REFERENCES

Gallup, A. M. (1986, September). The 18th annual Gallup poll of the public's attitudes toward the public schools. Phi Delta Kappan, 68, 43-59.

Knezevich, S. J. (1984). Administration of public education. New York: Harper & Row, Publishers, Inc.

Morland, J., Bugge, A., Skuterud, B., Steen, A., Wethe, G., & Kjeldsen, T. (1985, October). Cannabinoids in blood and urine after passive inhalation of cannabis smoke. Journal of Forensic Science, 30(4), 997-1002.

Syva Company. (1986, Summer). Syva News Report, P. O. Box 10058, Palo Alto, CA 94303.

Viadero, D. (1986, October 1). Tangle of questions confronts schools considering drug-testing programs. Education Week, 1, 9-10.

Wright, L. S. (1985, Winter). High school polydrug users and abusers. Adolescence, 20(80), 853-861.

## FOOTNOTES

[1]Table 1 is derived from Retention Times of Drugs in Urine (Syva Company) and Guidelines for Analytical Toxicology Programs (Thoma, J. J., Bondo, P. B., Sunshine, I., Editors.), CRC Press, Inc., 79-87.

[2]The information source for Table 2 is a personal communication with the Syva Company.